

REQUEST FOR RECONSIDERATION AND FORMAL INTERVIEW REQUEST

I. Introduction

This amendment is respectfully submitted in response to the Office Action dated April 4, 2006. The deadline for responding has been extended to October 4, 2006 by way of a request for a three month extension of time made herewith. To ensure that this amendment is entered, a Request for Continued Examination has been filed herewith.

Claim 74 has been added. Claim 74 is supported by the original text and figures and is patentable over the applied references because the references do not teach, disclose or suggest the recited combination of elements.

Claims 1-44 and 50-74 are pending. Claims 45-49 were canceled without prejudice in response to a previous restriction requirement.

The Examiner rejected all of the pending claims under 35 U.S.C. §103 for obviousness based on an Examiner proposed combination which, in the case of each of the claim rejections, depends on a combination of U.S. Patent No. 5,838,268 to Frenkel (the Frenkel patent) in view of Shattil (WO 99/41871).

The applied references, when considered alone or in combination, do not anticipate or render obvious the claimed subject matter.

II. Formal Request for Interview

Applicant's undersigned representative hereby formally requests an interview with the Examiner in the event that the Examiner intends to maintain any of the pending rejections or issue new rejections after reviewing this response.

It is requested that the Examiner call Applicant's undersigned representative after reviewing this document to schedule an interview. Applicant's representative intends to use this document as an interview outline and the basis for the interview discussion.

**III. Applicants' Reply to the
Examiner's Response to Arguments****A. Element 20 of Shattil is NOT an Interpolator**

If the Examiner asserts that a SUMMER is an interpolator or that a summing function is an interpolation function, Applicants request that the Examiner provide support in one of the references or somewhere else in the art for such an interpretation. Applicants do not see any support for such a position in the applied references. If the Examiner is not asserting that a summing function is an interpolation function, what interpolation function does the Examiner assert element 20 of the Shattil reference performs?

Applicants have carefully reviewed The Examiner's response to Applicants arguments and respectfully request

that the Examiner reconsider in view of the following remarks.

On page 11, in the Response to Arguments, the Examiner states:

In response to pages 19-21, the applicant states that Shattil does not disclose an interpolator. **In replies, Shattil discloses Fig. 1, Ref 20 performs the functions of the claimed interpolator as set forth in the office action, section 2.** Furthermore the application states that the examiner indicated Fig 1, ref 20 of Shattil as a mapping function of the claims 50 and 67. In reply, the examiner does not indicate Ref 20 of Shatil as a mapping function. The examiner indicated Ref 20 of Shattil as an interpolator and Ref 20 of Frenkel as a mapping function. (bold added)

Applicants respectfully disagree with the Examiner with regard to element 20 of the Shattil reference being an interpolator. Applicants submit that the Examiner's assertion that the Fig. 1, Ref 20 of Shattil is an interpolator is NOT supported by the Figure or the corresponding text. Fig. 1 of Shattel is shown below.

WO 99/41871

PCT/US99/02838

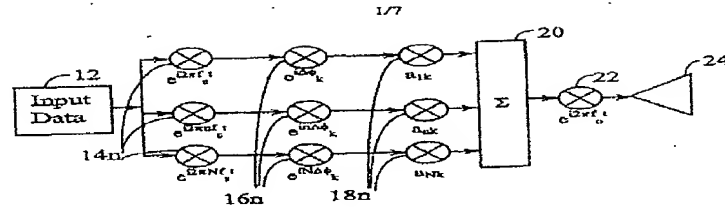


FIG. 1

Ref. 20 is clearly shown to be a SUMMER NOT an interpolator.

The corresponding text in Shattil supports Applicant's position that the element 20 in Shattil is a summer and NOT an interpolator as the Examiner asserts. Element 20 of the Shattil reference is described as "a combining system" NOT an interpolator. The reference states on page 5, line 9,

The gain-adjusted CIMA signals **are summed by a combining system 20.**

Thus, a review of the Shattil reference shows that element 20 is neither an interpolator circuit nor a mapping circuit.

Since the Examiner's rejections seem to be based on a technical miss-interpretation of element 20, Applicants

request that the rejections based on Shattil be withdrawn.

If the Examiner intends to persist in the assertion that element 20 is an interpolator, it is requested that the Examiner identify the text in the Shattil reference which the Examiner asserts supports the Examiner's interpretation and particularly, where element 20 is described as performing an interpolation operation.

B. The Examiner has Failed to Clearly Articulate a Teaching or Motivation in the References Which Would Motivate One of Ordinary Skill in the Art to Make the Examiner Proposed Combination

Applicants previously argued one of ordinary skill in the art would not be motivated, after considering the applied references to make the combination suggested by the Examiner.

In reply the Examiner states:

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion of motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art ...

In this case, Frenkel discloses the limitation of the claimed **excepting for function of interpolator**. However, Shattil discloses a combiner circuit,

which is function as claimed interpolator. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention was made to apply the teaching of Shattil into the teaching of Shattil. [SIC] The motivation would have been to reduce side lobe activity in the time domain in order to support additional users with reduced interference, flexibility of user position in time allows for positions that optimize various criteria such as minimizing near-far effects, optimizing performance for a given combining/multiuser detection. (Bold added, Office Action page 12)

Applicants note that the Examiner has failed to cite any portion of the references in support of the position that they teach or suggest the combination or provide an obvious benefit. In addition, Applicants are having a hard time, because of the wording of the Examiner statement, clearly understanding what benefit the Examiner thinks is achieved and precisely how the Examiner's suggested combination achieves the stated benefit.

Applicants request that the Examiner cite a portion of one or more references that indicates or discusses the benefit that the Examiner asserts is obvious in view of the references or alternatively, enter into the record an affidavit setting forth the personal knowledge upon which the Examiner's statements are based. Without such information Applicants can not have a full and fair opportunity to respond. Applicants note that the MPEP indicates that when the Examiner's rejection is based on personal knowledge Applicants have the right to request

that the basis of that knowledge be made of record so that they can have a fair opportunity to respond and/or refute the Examiner's basis for the rejection.

C. Request for Further Clarification

Applicants note that in the Response to Arguments, the Examiner has provided a statement regarding an asserted benefit that would be achieved by combining the references **but has failed to respond to Applicants request that the Examiner indicate clearly how the Examiner would combine the references.** Applicants need such information to determine if the benefit the Examiner asserts would be achieved would, in fact, be achieved or obvious. The Examiner should appreciate that from a technical standpoint Applicants can not determine whether a system would work, let alone achieve a particular result, without understanding what precisely the "system" was in terms of an arrangement and combination of elements.

Applicants reiterate their previous request, set forth below, for clarification with regard to the proposed combination:

Applicants request that the Examiner clarify the rejection **by clearly indicating which elements of the Frenkel patent the Examiner would replace with elements of the Shattil reference** and indicate what the advantage of the replacement would be. **Is the Examiner suggesting replacing the interpolator 30 or mapper 10 with the combining system 20 of the Shattil reference?** If the Examiner is not

suggesting such a modification but still thinks some combination is obvious, **what precise combination is the Examiner proposing in terms of actual elements described in the references.**

IV. Reiteration of Previous Arguments (Set Forth in Applicants Previous Response which Remain Applicable Why The Rejections Under 35 U.S.C. §103 Should be Withdrawn

The following arguments relate to the rejections made in the first office action but since the Examiner seems to be maintaining the rejections under §103 the statements seem to still be applicable.

Excerpts from previous remarks:

Each of the rejections under 35 U.S.C. §103 depends on an Examiner proposed combination of the Frenkel patent and the Shattil reference. The additional references used in rejecting some of the claims in combination with these references do not make up for the deficiency of these references and therefore will not be discussed further herein.

Pending claim 1 recites as an element:

an interpolation circuit that receives the discrete signal and generates a continuous signal by applying an interpolation function to the discrete signal, the interpolation function operating on the discrete signal such that a frequency response of the continuous signal includes sinusoids having non-zero values at a first set of tones, the first set of tones being a subset of said multiple tones, the non-zero value at each of said first set of tones being a function of a plurality of mapped symbols corresponding to different discrete points in time, the frequency response of the continuous signal also including zero values at a second set

of tones, the second set of tones being different from said first set of tones and being another subset of said multiple tones.

In rejecting claim 1 and the Examiner first cites the Frenkel patent but acknowledges deficiencies with respect to the Frenkel patent stating:

Frenkel fails to fully disclose a frequency response of the continuous signal includes sinusoids having non-zero value at each of said first set of tones being a function of a plurality of mapped symbols corresponding to different discrete points in time, the frequency response of the continuous signal also including zero values at a second set of tones, the second set of tones being different from said first set of tones and being another subset of said multiple tones. In the same field of endeavor, Shattil discloses frequency response of the continuous signal includes sinusoids having non-zero values at each of said first set of tones, the first set of tones being a subset of said multiple tones, the non-zero value at each of said first set of tones being a function of a plurality of mapped symbols corresponding to different discrete points in time, the frequency response of the continuous signal also including zero values at a second set of tones, the second set of tones being different from said first set of tones and being another subset of said multiple tones (**Fig. Ref 20 functions as an interpolation circuit because it combines the phase shifted carriers to produce one or more information modulated pulses centered at the predetermined instants in time.** Multiple pulses may be distributed throughout each data symbol interval. The frequency response of the pulses includes sinusoids). (Office Action page 4, bold and underlining added for emphasis)

The Examiner rejection of all the pending claims appears to be based on the Examiner's above stated

interpretation of the Shattil reference element 20 operating as an interpolator.

A review of the Shattil reference shows that element 20 is neither an interpolator circuit nor a mapping circuit. Element 20 of the Shattil reference is described as "a combining system" NOT an interpolator. The reference states on page 5, line 9,

The gain-adjusted CIMA signals **are summed by a combining system 20.**

A review of Figs 1 and 2 of the Shattil reference shows element 20 drawn as a box with a summing symbol in it. Applicants can find nothing in the reference that suggests that element 20 of the applied reference does anything more than sum the signals supplied to it to combine them. That is, Applicants have been unable to find anything that describes element 20 as an interpolator or that it does something beyond summing the signals supplied to it to combine them.

Accordingly, since **element 20 of the Shattil reference is NOT an interpolator**, combining it with the Frenkel patent as the Examiner suggests would not make up for the numerous Examiner recognized deficiencies of the Frenkel patent with respect to the interpolator circuit and/or interpolation function recited in various claims.

Applicants further submit that since element 20 does NOT perform the same function as the interpolator 30 of the Frenkel patent one of ordinary skill in the art would

not be motivated to use it in place of the Frenkel interpolator 30 and, furthermore, the Examiner has failed to suggest how such a proposed combination would improve upon the Frenkel system. Since the components do not perform the same function and there is no clear reason to use the combining system 20 of Shattil reference in place of the interpolator 30 of Frenkel, or that such a change would even work, it is respectfully submitted that the Examiner proposed combination of references is improper and the rejection based on the combination should be withdrawn for this additional reason as well.

In view of the above remarks, it should be appreciated that element 20 of the Shattil reference is NOT an interpolator but rather a combining circuit, e.g., a summer, and that all of the Examiner's rejections which are based on element 20 being an interpolator should be withdrawn. Since the rejection of all of the pending claims are based on the Shattil patent and the other references fail to make up for the above noted deficiencies of the Shattil patent, the rejection of the all the pending claims should be withdrawn.

V. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, Applicants request that the Examiner pass this application to issue.

In the event that the Examiner does not agree that the outstanding rejections have been overcome, Applicants

request that the Examiner grant the interview request so that Applicants can discuss the rejections, prior art and the Examiner statements with regard to obviousness so that a better understanding of the Examiner's and Applicants arguments can be achieved and hopefully the allowability of the present application resolved.

To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made and any required fee is authorized to be charged to the deposit account of Straub & Pokotylo, deposit account number 50-1049.

Respectfully submitted,

October 4, 2006

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patent Office on the date shown below.

Michael P. Straub

Type or print name of person signing certification

Michael P. Straub
Signature

October 4, 2006
Date